



International Civil Aviation Organization

**SECOND SATELLITE DATA LINK OPERATIONAL CONTINUITY
MEETING TO REVIEW THE PERFORMANCE AND PROVISION OF
SATELLITE COMMUNICATIONS IN THE ASIA AND PACIFIC
REGIONS**

(Bangkok, Thailand, 8-10 February 2012)

Agenda Item 4.1: Communication and Surveillance Capability and Performance Requirement

REVIEW OF PERFORMANCE FRAMEWORK FORM FOR SATCOM

(Presented by the Secretariat)

SUMMARY

This paper presents the Performance Framework Form for the Implementation of SAT Communication in Asia and Pacific Region noted by APANPIRG/22 for review. The Form was prepared in line with the guidance provided by ICAO headquarters. The form provides information on various tasks to be completed for the implementation and also provides information on the status. The meeting is invited to review the form and update it wherever required.

This paper relates to -

Strategic Objective:

D. Efficiency – enhance the efficiency of aviation operations

Global Plan Initiative:

GPI-22 – Communication Infrastructure

1. INTRODUCTION

1.1 Aviation environment, including ICAO, industry and the States have been steadily moving towards a performance based approach to planning. In this approach, planning is expected to be directed towards one or more of the eleven ATM Community Expectations included in the Global ATM Operational Concept (Doc 9854). These expectations are also referred to as Key Performance Areas (KPA's). To support this approach, Manual on Global Performance of the Air Navigation System (Doc 9883) has been developed, which provides a step by step approach to performance based planning on the basis of the KPA's identified in the operational concept.

1.2 These forms are expected to be updated from time to time for the assessment of progress in meeting the plan objectives and will also reflect the changing requirements.

1.3 The APANPIRG/22 meeting held in September 2011 reviewed and discussed the Regional Performance Objectives adopted for the region. The meeting recalled that the PFFs and associated metrics were adopted by APANPIRG/20 under conclusion 20/2 and 20/4 in support to the ICAO planning objective to achieve a performance based global air traffic management (ATM) system through the implementation of air navigation systems and procedures in a progressive, cost effective and cooperative manner.

2. DISCUSSION

2.1 Performance Framework Form for the implementation of SAT Communication for Asia Pacific Region was developed to cater to the regional Objective 8 and was reviewed by ATNICG in its last meeting. It is now proposed to review the PFF once again in light of the developments that have taken place subsequently.

2.2 The meeting reviewed the updated status of the PFFs reported by the ATM/AIS/SAR SG/21 and CNS/MET/SG/15 in addition to the updated status reported by some States in respect of AOP field. The updated PFFs in the CNS field on **Enhanced Communications and Surveillance Capability** are in **Attachment** to this paper.

2.3 One item listed in the Performance Framework Form requires developing a sample service level agreement for possible use by ANSPs to be developed by ANSPs, operators, FITS, CRAs and CSP. SOCM/2 is expected to discuss this issue and make progress for this task.

2.4 The meeting is invited to review and update information provided in the Performance Framework Form provided in Attachment to this paper and formulate following Draft Decision recommending the adoption of this PFF by APANPIRG through CNS/MET SG.

Draft Decision 2/xx - Enhanced Communications and Surveillance Capability – PFF

That, the updated Performance Framework Form (PFF) for Enhanced Communications and Surveillance Capability provided in **Appendix X** to the Report be adopted.

3. ACTION BY THE MEETING

3.1 The meeting is invited:

- a) to review the PFF provided at Attachment to this paper;
- b) to discuss way for developing a sample service level agreement for possible use by ANSPs; and
- c) to formulate the Draft Decision in paragraph 2.4

ASIA/PACIFIC REGION**PERFORMANCE FRAMEWORK FORM
(REGIONAL)
ASIA/PACIFIC REGION****PERFORMANCE FRAMEWORK FOR
(REGIONAL)***(Amended in July 2011)*

REGIONAL PERFORMANCE OBJECTIVE: <u>APAC Objective 9</u>				
ENHANCED COMMUNICATIONS AND SURVEILLANCE CAPABILITY IN OCEANIC AREAS				
Benefits				
Environment	<ul style="list-style-type: none"> • reductions in fuel consumption and gaseous emissions as a result of efficiency gains; 			
Safety	<ul style="list-style-type: none"> • improved monitoring of airspace will result in safety enhancement 			
Efficiency	<ul style="list-style-type: none"> • facilitate utilization of advanced technologies (e.g. area navigation, UPRs, DARPs) and ATC decision support tools (e.g., vertical and lateral adherence monitors, short and medium term conflict detection), thereby enhancing safety and increasing efficiency. • enable aircraft to conduct flight more closely to preferred trajectories; • increase airspace capacity by enabling implementation of RASM using data link; 			
Strategy Short term (2009-2011)				
ATM OC COMPONENTS	TASKS	TIME FRAME	RESPONSIBILITY	STATUS
AOM <i>(Airspace Organization and Management)</i> CM <i>(Conflict Management)</i> AUO <i>(Airspace Users Operations)</i>	Improve provision of satellite based communications and surveillance capabilities to enable FANS 1/A data link (ADS-C, CPDLC) to RNP 4 and RCP 240 specifications.			
	<ul style="list-style-type: none"> • codify/quantify existing anecdotal information and combine with available end-to-end system performance data; to summarise current satellite data link performance; 	2009	Regional ANSPs, operators, FITS, CRAs. Communications Service providers (CSP)	Reported to Satellite Operational Continuity Meeting (SOCM/1), Bangkok, Thailand, August 2009

	<ul style="list-style-type: none"> • identify non conformities in current satellite data link performance against; <ul style="list-style-type: none"> ○ specifications in Global Operations Data Link Document (GOLD); ○ specifications in RCP Manual (Doc 9869); and ○ specifications in Oceanic SPR) 	2009	Regional ANSPs, operators, FITS, CRAs.	reviewed status and identify issues at Satellite Operational Continuity Meeting (SOCM/1), August 2009
	<ul style="list-style-type: none"> • provide summary information on non conformities in current satellite data link performance to all affected parties in the end-to-end communications chain. 	2009	Satellite Operational Continuity Meeting (SOCM) August 2009 to summarize and circulate information to affected parties, including CSP, Ground Earth Station (GES) providers, equipment suppliers and satellite service providers.	Issues identified have been summarized in the report of the first meeting of Satellite Operational Continuity Meeting (SOCM/1).
	<ul style="list-style-type: none"> • Implement mitigations and solutions in accordance with timelines in regional strategy 	2010	Regional ANSPs, operators, FITS, CRAs, CSP, Ground Earth Station (GES) providers, equipment suppliers and satellite service providers.	State Letter dated 12 July 2010 issued conveying mitigation solution suggested by ICAO
	<ul style="list-style-type: none"> • develop a regional strategy and work programme to identify/design suitable long term mitigations and solutions to non conformities that will enable continuous operational compliance with specifications for RNP4 and RCP 240. 	201 <u>2</u>	Regional ANSPs, operators, FITS, CRAs, CSP, Ground Earth Station (GES) providers, equipment suppliers and satellite service providers.	The Satellite Communication Datalink Service has been improved since late 2009 to some extent. But still does not fully meet operational requirements satisfactorily.
	<ul style="list-style-type: none"> • Develop a sample service level agreement for possible use by ANSPs 	201 <u>2</u>	Regional ANSPs, operators, FITS, CRAs, CSP	SOCM/2 scheduled for November 2011 to progress this work

	<ul style="list-style-type: none"> • monitor implementation progress 	201 <u>2</u>	Regional FITS, CRAs provide feedback to all affected parties	Assess implementation of mitigation solution in the next SOCM meeting
GPIs	GPI/5: RNAV and RNP, GPI/7: dynamic and flexible ATS route management, GPI/17: data link applications and GPI/22: Communication Infrastructure;			
References	<ul style="list-style-type: none"> • <i>Manual on Required Communication Performance (Doc 9869)</i> • <i>RTCA DO-306/EUROCAE ED-122, Safety and Performance Standard for Air Traffic Data Link Services in Oceanic and Remote Airspace (the “Oceanic SPR”)</i> • <i>FANS-1/A Operations Manual (FOM)</i> • <i>Global Operational Data Link Document (GOLD)</i> • <i>Guidance Material for End-to-End Safety and Performance Monitoring of Air Traffic Service (ATS) Data Link Systems in the Asia/Pacific Region</i> • <i>CEANS Report(2008) on ANS Infrastructure</i> • <i>APANPIRG Conclusion 19/24, 20/31, 20/32/20/33, 20/34 and 20/73</i> 			